



Docket No.: ATX-007CP4DV12  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
John J. Harrington *et al.*

Application No.: 09/484,331

Confirmation No.: 9576

Filed: January 18, 2000

Art Unit: 1632

For: COMPOSITIONS AND METHODS FOR NON-  
TARGETED ACTIVATION OF  
ENDOGENOUS GENES

Examiner: WOITACH, Joseph T.

MS Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**AMENDED APPEAL BRIEF**

Dear Sir:

Appellants file this amended Appeal Brief in response to the Notice of Non-Compliant Appeal Brief mailed from the U.S. Patent and Trademark Office on January 12, 2006.<sup>1</sup>

In this amended Appeal Brief, Appellants have replaced the previous "Summary of Invention" section with a "Summary of the Claimed Subject Matter" section.

<sup>1</sup> February 12, 2006, fell on a Sunday. Applicants note that the U.S. Patent and Trademark Office has mailed three copies of the Notice of Non-Compliant Appeal Brief (mailed on December 27, 2005, January 5, 2006, and January 12, 2006). Accordingly, this communication is responsive to all three Notices.

This brief contains items under the following headings as required by 37 C.F.R. § 41.37 and M.P.E.P. § 1206:

- I. Real Party In Interest
- II. Related Appeals and Interferences
- III. Status of Claims
- IV. Status of Amendments
- V. Summary of Claimed Subject Matter
- VI. Grounds of Rejection to be Reviewed on Appeal
- VII. Argument
- VIII. Claims Appendix
- IX. Evidence Appendix
- X. Related Proceedings Appendix

I. Real Party in Interest

The real party of interest in this appeal is:

Athersys, Inc.

II. Related Appeals, Interferences, and Judicial Proceedings

There are no other appeals, interferences or judicial proceedings known to appellant which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. Status of Claims

A. Total Number of Claims in Application

There are two (2) claims pending in the application.

B. Current Status of Claims

- 1. Claims canceled: 1-68
- 2. Claims pending: 69 and 70
- 3. Claims allowed: none
- 4. Claims rejected: 69 and 70

## C. Claims on Appeal

The claims on appeal are claims 69 and 70.

IV. Status of Amendments

Applicant filed an Amendment After Final on January 3, 2005. The Examiner issued an Advisory Action mailed February 16, 2005. In the Advisory Action, the Examiner indicated that Applicants' Amendment After Final would be entered.

Accordingly, the claims enclosed herein as Appendix A reflect the claims as pending.

V. Summary of Claimed Subject Matter

In one aspect, the instant invention is related to a method of drug discovery (*see, e.g.*, page 32, lines 5-6 and page 35, lines 29-30) comprising, (a) integrating a vector comprising a promoter into the genome of one or more eukaryotic cells by non-homologous recombination, where the promoter activates expression of an endogenous gene in these cells; (*see, e.g.*, page 6, lines 2-11; page 7, lines 11-16; and page 51, lines 6-8) and (b) culturing the cell(s) from step (a) under conditions favoring expression of the activated gene, thereby producing a gene product of the activated gene; (*see, e.g.*, page 7, lines 25-28 and page 51, lines 8-10); (c) screening the cell(s) from step (b) for a cell in which a desired gene is activated or for a cell in which a desired phenotype is induced by the activated gene; (*see, e.g.*, page 7, line 24; page 49, line 22 through page 50, line 2; page 51, line 10-11; and page 67, lines 15-26) (d) treating the cell(s) from step (c) with one or more test compounds; and (e) determining the ability of the test compounds to interact with a product of the desired activated gene or to affect the desired phenotype (*see, e.g.*, page 72, lines 22-25).

In one aspect of the claimed method, the gene product is a protein which is purified from the cell and the test compound is exposed to the purified protein (*see, e.g.*, page 69, lines 14-18; and page 72, lines 1-20).

VI. Grounds of Rejection to be Reviewed on Appeal

Claims 69 and 70 stand rejected under 35 U.S.C. §112, first paragraph, on the grounds that they fail to comply with the written description requirement for reasons of record set forth in the previous non-final Office Action of December 23, 2003.

Claims 69 and 70 also stand rejected under 35 U.S.C. §112, first paragraph, on the grounds that they fail to comply with the enablement requirement for reasons of record set forth in the Office Action of December 23, 2003.

VII. Argument

A. Written Description Rejection of Claims 68 and 69 under 35 U.S.C. §112, First Paragraph

The basis for the written description rejection is the Examiner's opinion that generally disclosing drug discovery with RAGE technology does not reasonably convey the *specific* steps in the claims. The Examiner frames the issue as follows: "how could the specification lead an artisan to the specific steps recited in the claim? In other words, how would an artisan know what specific steps were contemplated by the applicants at the time of the invention." Final Office Action, October 05, 2004, page 5. The Advisory Office Action restates the same point. Advisory Office Action, February 16, 2005, page 2.

This specific issue has been addressed in an expert Declaration in the file history. Up to the present, however, this Declaration has not been considered *for its substance on this very issue*.

1. The Dhanoa Declaration Has Not Been Considered for the Relevant Issue

The Declaration of Dr. Dale Dhanoa,<sup>2</sup> a qualified expert in the field of drug discovery, was submitted with Appellants' Response dated July 10, 2003. Based on detailed scientific reasoning Dr. Dhanoa reached the following conclusion:

Based on my reading of the patent application, therefore, it is my opinion that the person of ordinary skill in the field of drug discovery, reading this application on or about the filing date of September 26, 1997, would have realized that the Applicants, by mentioning the drug discovery process as they did, implicitly were describing the drug discovery method in claims 62-69, copy attached.

Dhanoa Declaration page 9.

This Declaration was submitted specifically to address the issue of whether the steps in the claims were reasonably conveyed to the person of ordinary skill in the art. The steps currently at issue were in then-pending claims 62-69, which the Declaration considered. Therefore, the Declaration applies to the current claims as well. A copy of the then-pending claims 62-69 is attached to the Declaration, Reference 2, in the Evidence Appendix.

Appellants respectfully submit that the person of ordinary skill in the art would have understood from the term "drug discovery" steps that MUST be used for drug discovery with the RAGE-activated cells. Thus, the steps are inherent and would have been recognized immediately by one of ordinary skill in the drug discovery industry. Support need not be explicit as long as the specification reasonably conveys the claimed steps. If by the term "drug discovery" the person of ordinary skill would have recognized how this is conventionally done, then the claim is adequately described so that the artisan can practice the method as claimed.

This issue has been addressed in two expert Declarations in the file history. Up to the present, however, the Bennani Declaration has been dismissed without substantive reason.

---

<sup>2</sup> Reference 2 in the Evidence Appendix.

And the Dhanoa Declaration has not even been considered for its substance on this issue.

The Dhanoa Declaration addressed only the question of whether the claimed steps would have been implicitly disclosed to the person of ordinary skill in the art reading the specification. The Dhanoa Declaration was not concerned with the adequacy of written description of the compounds. Therefore, the Examiner's statement is factually incorrect.

Appellants clearly stated why they submitted the Dhanoa Declaration in their Response dated July 10, 2003. Briefly, during an interview held on May 16, 2003, Examiner Reynolds explained that, based on her review of the text directed to drug discovery in the specification, the specification did not describe the steps of compound testing on the cells, i.e. the issue at hand. The Declaration was submitted to address this issue alone. See page 14 of Appellants' Response dated July 10, 2003. There should be no confusion, therefore, about why the Declaration was presented and no reason to believe that it addresses the issue of adequate description of compounds.

2. The Dhanoa Declaration Has Been Considered For An Issue It Does Not Address

The issue of adequacy of description of the compounds recited in the claims was raised in the non-final Office Action dated October 25, 2001. There, the Examiner stated that compounds are critical to practice the claimed invention and structures must be described. No specific compounds were described in the specification. That clearly was the sole basis for the rejection.

In Appellants' Response dated April 25, 2002, Appellants asserted that it was the policy of the PTO to allow drug screening claims without a description of the compounds because the PTO realized that random compounds were routinely tested. Appellants cited a slide presentation to this effect given by Brian Stanton at a Biotechnology Partnership meeting. See pages 7, 8, and 10 of Appellants' April 25, 2002 Response. Appellants also

submitted an expert Declaration by Dr. Youssef L. Bennani, Director of Medicinal Chemistry at Athersys, Inc., explaining scientifically why, for compound testing, the structure of the test compound was not critical (page 3 of the Declaration).<sup>3</sup>

In the final Office Action dated January 13, 2003, the rejection was maintained for reasons of record. In a subsequent interview (May 16, 2003) with Appellants and the Examiner, the Examiner's supervisor (Deborah Reynolds), and Brian Stanton, Mr. Stanton indicated that if indeed the claims were generic drug discovery claims then the compounds need not be described. In the subsequent (Advisory) Action of August 5, 2003, the rejection was withdrawn *on the basis of the Dhanoa Declaration*. Because the Dhanoa Declaration did not address compound description, Appellants assumed this was an inadvertent erroneous statement.

The basic point is that the Dhanoa Declaration cannot have been considered on the issue of written description for compounds since it didn't address this issue. Thus, the Declaration has not been considered for its evidence on the pertinent issue. Because the Declaration has not been considered for the correct issue, the rejection is improperly supported.

### 3. Written Description Can Be Inherent

The term "drug discovery" was well-understood in the art. As two expert Declarations stated, an artisan would have known what steps the Appellants had in mind when they referred to "drug discovery." The specifics of these steps need not have been explicitly stated in the application to be used in the claims. As the CCPA stated, "the invention claimed does not have to be described in *ipsis verbis* to satisfy the description requirement of §112." *In re Lukach*, 58 C.C.P.A. 1233, 1235 (CCPA, 1971). "The test for

---

<sup>3</sup> Reference 1 in the Evidence Appendix.

sufficiency of support in a parent application is whether the disclosure of the application relied upon 'reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter.' *Ralston Purina Co. v. Far-Mar-Co, Inc.*, 772 F.2d 1570, 1575, 227 U.S.P.Q. (BNA) 177, 179 (Fed. Cir. 1985). According to the Dhanoa Declaration, this applies to the present case.

4. The Dhanoa and Bennani Declarations Demonstrate that the Specification Inherently Discloses the Recited Steps

The Dhanoa Declaration squarely addresses the issue of whether the specification conveys to the artisan the steps recited in the claims. As the Dhanoa Declaration states, an artisan would have realized that, by disclosing "drug discovery," Appellants implicitly described the claimed drug discovery method. Having described the process of drug discovery, Dr. Dhanoa stated: "...the cited passages (referring to drug discovery), within the full context of the application, would have indicated to me that a compound could be tested against a RAGE cell with an activated gene of interest to determine if the compound affects the gene of interest or phenotype of interest." Dhanoa Declaration, page 9. The Examiner provides no evidence contradicting this statement.

Furthermore, the Bennani Declaration states that, "[I]n my experience, the person of ordinary skill in the art (i.e., drug discovery) would immediately recognize the claimed method in the term "drug discovery" and would know how to use the RAGE-activated cells for drug discovery, including the well-known and fundamental steps used in such research field." Bennani Declaration, page 5. Again, the Examiner provides no evidence contradicting this statement.



5. The Dhanoa Declaration Impermissibly Dismissed as the Examiner Has Not Met Burden

First, the Declaration was not considered for what it addresses. Therefore, it has not been properly considered on the relevant issue. Accordingly, the rejection is, at best, incomplete.

Next, the Declaration was dismissed for impermissible reasons. There is no scientific or logical rebuttal of the evidence presented in the Declaration. The Examiner merely repeated the same unsubstantiated position as follows.

How could the specification lead an artisan to the specific steps recited in the claim? In other words, how would an artisan know what specific steps were contemplated by the Applicants at the time of the invention. And the declaration cannot address this issue.

Final Office Action dated October 5, 2004, page 5.

Similarly, in the Advisory Office Action dated February 16, 2005, a new Examiner stated that “[T]he declaration of Bennani and Dhanoa have been fully considered, and do not appear to have been ignored or dismissed. As indicated previously, it has been found that the declarations fail to provide any objective evidence for the conclusions regarding the specifically claimed invention.” (*sic*). Advisory Office Action, page 2.

As Appellants demonstrated, neither declaration was considered for the relevant issue of written description. Unsubstantiated statements made by the Examiners in the Office Actions fail to constitute scientific or logical reasons to rebut the evidence presented in the Declaration. Contrary to the Examiner’s statement that “the declaration cannot address this issue,” the Declaration can and does address this issue.

Accordingly, the Examiners have impermissibly substituted their opinions for an expert's opinion which was based on sound scientific reasons about what the ordinary skilled artisan would have recognized from the Appellants' specification.

6. Appellants Do Not Attempt to Satisfy Written Description Requirement Through Obviousness

In the Advisory Office Action, February 16, 2005, the new Examiner raises a new legal issue. He states that Appellants are attempting to satisfy the written description requirement through obviousness. Advisory Office Action, p.2. The Examiner cites *University of California v. Eli Lilly and Co.*, 119 F.3d 1559, 43 USPQ2d 1398, at 1405 (Fed. Cir. 1997) for the proposition that "a description which renders obvious a claimed invention is not sufficient to satisfy the written description requirement."

Appellants do not dispute this proposition. However, Appellants have not attempted to satisfy the written description requirement through obviousness. Appellants submitted and proved by expert Declarations that the specification sufficiently conveys the claimed invention to the person of ordinary skill. The Declarations demonstrate that a person of ordinary skill in the art reading the Appellants' specifications would recognize the specific claimed steps as inherent in the term "drug discovery."

Therefore, the Examiner's reliance on *University of California* is misplaced.

7. The Examiner Erroneously States That the Term "Drug Discovery" Was Added to Overcome §102 Rejections

In the Advisory Office Action dated February 16, 2005, the new Examiner states, "It is noted that the claims have been amended during prosecution to address rejections made under 35 USC §102. Neither declaration addresses why the statement of use for "drug discovery" allows one to amend claims to differentiate it from the prior art." Advisory Office Action, page 2. This statement is factually incorrect. The term "drug discovery" was

in the original claims and was not added to overcome any rejection under §102. In fact, claim 69 was never rejected under §102.

Claim 69 is a combination of independent claim 62 and its dependent claim 68. The limitations of claim 68 were incorporated into claim 62 to arrive at claim 69. In the non-final Office Action of October 25, 2001 (page 11) claim 62 was rejected under §102. Claim 68 was not rejected. Therefore, current claim 69 was never subject to a rejection under §102. See Appellants' Response dated April 25, 2002, page 21 (para spanning pages 21-22).

8. The Examiner Improperly Challenged the Mental Process of Declarant

In the Final Office Action of October 05, 2004, the Examiner states that Dr. Dhanoa reached the wrong conclusion because of the *order* in which he *may* have reviewed the file history.

Furthermore, from the declaration it is also unclear whether Dr. Dhanoa saw the claims and the rejection first before seeing the specification language because this would result in Dr. Dhanoa analyzing the specification keeping in mind the claim language. Office Action, p.4, line 5 from below.

The Examiner cites no case law or administrative regulations which specify how an expert is supposed to assess the facts, and, specifically, which would regulate whether or not an expert may see the disputed claims and the rejection before rendering his or her opinion. Appellants are unaware of any case law or administrative regulations where speculation about how an analysis was done adequately meets the burden for an Examiner to rebut an expert declarant. Even if Dr. Dhanoa's review was in the order suggested by the Examiner, Appellants are still unaware of any precedent showing that this type of review would be sufficient for an Examiner to meet the burden of rebutting an expert declarant. It must be presumed that an expert in the field can review the file history in any sequence they choose

and still reach an objective conclusion based on sound scientific evidence or reasoning. The Examiner has not shown that Dr. Dhanoa failed to reach such an objective conclusion.

9. Dr. Dhanoa Discussed Patent Application 08/941,223

In the final Office Action of October 5, 2004, the Examiner focused on the fact that the Dhanoa Declaration lists 09/941,223 as a U.S. Patent Application, instead of 08/941,223. The Examiner stated that “it is not clear which patent application did Dr. Dhanoa see.” Office Action, page 4.

As Appellants explained in the Response of January 3, 2005, in his Declaration, Dr. Dhanoa inadvertently mistyped the application number as 09/941,223 instead of 08/941,223. However, there is no doubt which application Dr. Dhanoa reviewed. As the Examiner himself pointed out, there is no application number 09/941,223. The only application which discusses the RAGE technology, and which was filed on September 26, 1997, is application number 08/941,223.

Therefore, it is certain that Dr. Dhanoa discussed application number 08/941,223.

10. Summary Conclusion

Appellants have presented ample evidence that the specification adequately describes the specific method claimed. The scientific evidence and reasoning in the Declaration has not been challenged with scientific or logical evidence. Therefore, Dr. Dhanoa’s conclusion must be accepted. It is error to dismiss the Declarant’s testimony without adequately articulating the reasons why the testimony fails to overcome the determination to reject the Appellants’ application. *In re Alton*, 76 F.3d 1168 (Fed. Cir. 1996); *In re Oetiker*, 977 F.2d 1443 (Fed. Cir. 1992).

With regard to the Dhanoa and Bennani Declarations, Appellants point out that they are offering factual evidence relating to drug discovery methods and the Declarants’

understanding of the invention. The Federal Circuit cautioned that such factual evidence should not be dismissed lightly. *In re Alton*, at 1175.

Despite the Examiner's statements, the Dhanoa Declaration has never been properly considered for its pertinent teachings. Appellants demonstrated that the Examiner considered the Dhanoa Declaration with respect to an unrelated written description rejection, but never considered the Dhanoa Declaration with respect to the current written description rejection. Merely stating in the Advisory Action that the declarations "fail to provide any objective evidence for the conclusions regarding the specifically claimed invention" is not enough to rebut the expert's conclusions. Therefore, the Examiner did not carry its burden of overcoming the expert's Declaration and the rejection should be reversed.

Appellants submit that the totality of the record, consisting of the Appellants' disclosure, arguments, and two Declarations by experts in the field, points to the conclusion that the specification adequately discloses the claimed method.

**B. Rejection of Claims 68 and 69 under 35 U.S.C. §112, First Paragraph (Enablement)**

Claims 69 and 70 are rejected under 35 U.S.C. §112, first paragraph, on the grounds that they "fail to comply with the enablement requirement for reasons of record set forth in the previous office action of 12/23/03."

The reasons of record in the Office Action of December 23, 2003, were based in part on the reasons for the rejection in the Office Action of October 25, 2001. But the reasons for rejection in the October 25, 2001 Office Action were already successfully resolved earlier in prosecution. These reasons have been resurrected and Appellants have been unable to obtain an explanation for this. The history is as follows.

In the very first Office Action, dated April 28, 2000, the claims (with substantially the same steps as the current claim 69) were rejected as not enabled because the Examiner

took the position that before compounds could be selected for testing, the identity of the activated gene must be known. The Examiner believed that only then could an appropriate compound be selected. See pages 4-7 of that Office Action.

This issue was resolved in an interview with the Examiner and his supervisor, Mr. Priebe. Mr Priebe indicated that reciting the term “desired” with reference to the gene and phenotype would resolve the issue. Accordingly, at Mr. Priebe's direction, Appellants refiled the case with the amendment. The Examiner then withdrew the rejection in its entirety (Office Action April 11, 2001).

Then, in a second non-final Office Action (the October 25, 2001 Office Action), the same claims that had been refiled were newly rejected as non-enabled, in part for the same reasons they had been rejected in the April 28, 2001 Office Action. These reasons have carried over into all of the remaining Office Actions. See the paragraph spanning pages 5-6 in the December 23, 2003 Office Action, the paragraph spanning pages 7-8 and pages 8 and 9 of the October 25, 2001 Office Action, and compare that to the April 28, 2000 Office Action, pages 4-7. It is evident that a basis for rejection that had been resolved has been improperly reinstated.

Thus, the current rejection is based in part on an issue that has already been resolved, It is not clear if that issue is the dispositive one. If it is, then because this issue has been resolved, the rejection should be withdrawn.

1. Step (e) is Enabled

The only question is whether the person of ordinary skill could have practiced each of the steps without undue burden of experimentation. The Examiner has already acknowledged that steps (b) – (d) are routine. (“While it would have been routine to culture a cell, expose it to compound (steps b-d of the claimed method), it would not have been routine to determine

the ability of one or more compounds to interact with the product of the activated gene...” Office Action of December 23, 2003, page 5). See also Point 5, page 2. Accordingly, the Examiner takes the position that step (e) was not routine. However, as Appellants have explained to the Examiner, step (e) would also be routine.

2. It is Routine to Determine Whether a Test Compound Affects a Desired Activated Phenotype or Interacts with a Product of a Desired Activated Gene

As mentioned above, the Examiner’s arguments were set forth also in the Office Actions dated April 28, 2000 and November 17, 2000. Appellants addressed the arguments in their responses to both of these Office Actions. Once again, in the December 23, 2003 Office Action and final Office Action of October 5, 2004, the Examiner asserts that it is necessary to know the characteristics/properties of both a gene and a test compound to determine the ability of the test compound to interact with a product of the gene. But this is scientifically incorrect within the context of the compound screening process. Appellants have explained in detail how compound testing in drug discovery is done with up to hundreds of thousands of random compounds. All that is required is an assay to detect the compound’s effect on a particular gene product or phenotype. See the Bennani Declaration, page 3, for example.

Appellants underscore that the claimed methods recite a “desired gene and phenotype.” Since the gene is desired, it is by definition known. And since a phenotype is “desired,” it is, by definition, detectable. Since the method can be used for different known genes, characteristics/properties of the genes would differ because different known genes have different characteristics/properties. Appellants stress that knowing all characteristics and properties of a gene is not required to practice the claimed methods. All that is required is an assay for a product of that gene (or way to detect a phenotype).

The claims recite “determining the ability of said one or more test compounds to interact with a product of said desired activated gene or to affect said desired phenotype.” This step implies that artisans would use available assays for a particular desired gene product or particular desired phenotype. There are many assays existing in the art for various genes and phenotypes. If an artisan is interested in a particular gene, the artisan would use an assay available for that gene to determine the effect of various test compounds on the gene. Likewise, if an artisan wants to determine whether a test compound affects a specific phenotype, the artisan simply determines whether a test compound affects the phenotype in some way using a suitable assay.

In the Advisory Office Action dated February 16, 2005, the new Examiner states that Appellants’ arguments are unconvincing because the use of an artificial promoter to express a gene would not represent something found in nature or a disease state. This is a new argument. In any event, Appellants are not sure how it is relevant to the issue. Appellants’ claims are not directed to naturally-occurring expression systems or model systems of any disease states. Instead, claims are directed to “a method for drug discovery.” As the Bennani Declaration explained, drug discovery typically utilizes an *in vitro* biochemical or cellular assay in which a gene or phenotype of interest is activated. The protein or the cell is treated with a large selection of “off the shelf” compounds. The compounds which affect the gene product or phenotype of interest are then further evaluated for their suitability to be drug candidates. Appellants’ claims only cover the steps of this process up to identifying test compounds which have any effect on a product of a gene of interest or which affect a desired phenotype. Thus, it is not necessary to create a “model system” of a disease to practice the Appellants’ invention.



In the Final Office Action, page 6, the Examiner states that it is relevant to know whether one or multiple genes affect the phenotype “since the method is for finding a drug for a certain gene.” Appellants respectfully disagree. While in one embodiment of the invention the method can be used to find a drug for a certain gene, in other embodiments, the method can be used without knowing the gene (or genes) responsible for a specific phenotype. The claims do not recite a method for finding a compound for a certain gene. Claims are directed to “a method for drug discovery” which may include both finding compounds that affect specific genes and compounds that affect specific phenotypes without reference to any specific gene.

For example, suppose that a desired phenotype is resistance to a protease inhibitor. An artisan would introduce a vector into cells, culture the cells, and screen for cells having the resistance phenotype. Then, the artisan would expose the cells having the phenotype (resistance) to various test compounds to determine if any test compound has an effect on the phenotype (resistance). Because only an effect on the phenotype (resistance) is assayed, knowledge of the gene (or genes) that cause the phenotype (resistance) is not necessary. All the artisan is interested in is whether a test compound affects the phenotype (resistance).

Thus, the Examiner’s assertion on page 6 of the final Office Action that “...the method is for screening of compounds that affect gene product of a gene [sic] and not for screening of compounds that affect drug resistance” is incorrect. One would, in fact, screen for compounds that affect drug resistance if that is the desired phenotype. The method recites determining the ability of a test compound to affect a desired phenotype. Therefore, the method encompasses screening compounds which affect the desired phenotype of drug resistance irrespective of the gene or genes that cause it.

3. There is No Need to Know Up Front the Structure of Test Compounds As it

Relates to the Gene Product

The Bennani Declaration explained that in drug discovery, an artisan would test randomly selected compounds. In the Final Office Action of October 5, 2004, the Examiner dismissed the Declaration as follows:

Applicants arguments that an artisan could take any compound (as discussed in the declaration by Bennani) are not persuasive because an artisan would need to know the structure of the compound, structure of the gene product and requirements for the interaction of the compound to interact with a gene product to practice step (e). Applicants do not discuss where the specification discusses how to determine the ability of one or more compounds to interact with a product of an activated gene, which characteristics of a gene product or compound will be used in determining such.

Office Action, page 6.

The Examiner's statement does not provide sufficient evidence to rebut the statements of Dr. Bennani, which are based on his industry experience in drug discovery. As Dr. Bennani explained, in drug discovery, test compounds are typically taken "off the shelf" and are exposed to cells to assess their effect on a particular gene or a phenotype. Assays are specifically designed to be able to measure the effect of any compound on a desired gene or a phenotype.

The Examiner simply reasserts his position without any scientific rebuttal evidence. Contrary to the Examiner's statement, Dr. Bennani has shown why an artisan would not need to know the relationship between the structures of a test compound and gene product to practice step (e). Up front knowledge of "requirements" for interaction are NOT necessary and, typically, not even considered. All that is needed is an assay to determine the effect of a test compound on a particular gene's expression or on a particular phenotype. Thus, all that is necessary is a way to detect a gene product or a phenotypic screen.

4. Schemes and Diagrams Were Provided to Assist the Examiner and Are Not Necessary to Understand the Claimed Invention.

In the Final Office Action, the Examiner stated that “while applicants provide elaborate schemes and explanations, none of these are present in the specification and therefore an artisan would not have had these descriptions for practicing the claimed invention.”

Appellants provided schematic explanations showing how the invention works with a sole reason: to assist the Examiner to understand the invention. The person of ordinary skill in the art would not have needed this assistance.

Accordingly, Appellants believe that they have addressed each of the grounds of the rejection and the rejection has been overcome. Reversal of the rejection is respectfully requested.

VIII. Claims Involved in the Appeal

A copy of the claims involved in the present appeal are attached hereto as Appendix

A. As indicated above, the claims in Appendix A are the claims as pending.

IX. Evidence

Reference Number	Reference Title
1	A copy of the Bennani Declaration, submitted under 37 CFR §1.132 on April 24, 2002 along with Applicants' Amendment and Remarks, attached as Appendix B herewith.
2	A copy of the Dhanoa Declaration, submitted under 37 CFR §1.132 on July 10, 2003 along with Applicants' Amendment and Remarks, attached as Appendix C herewith.

X. Related Proceedings

No related proceedings are referenced in II. Above, or copies of decisions in related proceedings are not provided, hence no Appendix is included.

Appellants believe no fee is due with this submission. However, if a fee is due, please charge our Deposit Account No. 12-0080, under Order No. ATX-007CP4DV12 from which the undersigned is authorized to draw.

Dated: February 13, 2006

Respectfully submitted,



---

Sapna Mehtani, Ph.D., J.D.  
Registration No. 56,126  
*for*  
Anne R. Brown  
Registration No. 36,463  
LAHIVE & COCKFIELD, LLP  
28 State Street  
Boston, Massachusetts 02109  
(617) 227-7400  
(617) 742-4214 (Fax)  
Attorney/Agent for Applicants